

**IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE**

**TITLE:
A SELF-ADJUSTING GAMBREL**

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This utility patent application takes priority from Provisional patent Application No. 60/461,508 filed April 9, 2003, for "A Self-Adjusting Apparatus for Hanging a Carcass."

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

[01] Applicant's invention relates to a device for hanging a carcass, allowing a hunter to field dress the animal. More particularly, it relates to a portable gambrel which automatically adjusts to the proper size for the animal being dressed.

BACKGROUND INFORMATION

[02] Hunters often desire to field dress an animal they have slaughtered. Field dressing an animal reduces the weight that a hunter must carry making it easier to manipulate and handle. Field dressing also helps prevent contamination. Field dressing is most easily accomplished by suspending the animal by its hind legs via a gambrel. Conventional gambrels are difficult to use because they are overly complex, difficult to mount, do not easily adjust for varying sizes and weights of animals, and have weak joints which collapse when subjected to heavy loads.

SUMMARY OF THE INVENTION

[03] The present invention consists of an apparatus that can be easily and quickly hung from a variety of mounts to allow for quick, safe, reliable field dressing of slaughtered animals.

[04] The present invention provides a novel apparatus that will automatically adjust to the size and weight of the slaughtered animal.

[05] The present invention also provides for, at most, two pivot points which enhances the overall strength of the apparatus.

[06] The present invention further provides for a weight-bearing lower cross member which operates to distribute the weight of the slaughtered animal across the entire gambrel and provides for surpassing strength.

[07] The present invention still further provides for a hooked mounting mechanism which provides for versatility in field dressing the slaughtered animal.

BRIEF DESCRIPTION OF THE DRAWINGS

[08] Figure 1. is a front elevation view of the present invention in a first, retracted position.

[09] Figure 2. is a front elevation view of the invention in a second, extended position.

[10] Figure 3. is an partial, side perspective view of the present invention.

[11] Figure 4. is a top perspective view of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[12] Referring to the figures in which like referenced features indicate corresponding elements throughout the several views. The references are:

10 gambrel	22 second prong arm	32 lower cross member
12 support hook	24 first prong arm pivot	32a lower cross member first end
14 central bar	26 second prong arm pivot	32b lower cross member second end
16 upper cross member	28 first prong	34 first lower cross member collar
16a upper cross member first plate	28a first prong tapered end	36 second lower cross member collar
16b upper cross member second plate	30 second prong	38 first notch
18 upper cross member cylinder	30a second prong tapered end	40 second notch
20 first prong arm		

[13] Attention is first directed to **Figure 1** which illustrates a gambrel (10) in a first, retracted position. The gambrel (10) has a support hook (12) operable to hang the gambrel (10) by a chain, rope, cable, a stationary object, or other supporting means (not shown). The support hook (12) is connected to the first end (no reference number) of the central bar (14) of the gambrel (10). The central bar (14) extends downwardly when the gambrel (10) is in use.

[14] The gambrel (10) has an upper cross member (16) slidably connected to the central bar (14) via the upper cross member cylinder (18). The upper cross member (16) is comprised of a front plate (16A) and a back plate (16B) (not visible in this view). The gambrel (10) has a first prong arm (20) and a second prong arm (22) connected to the upper cross member (16) via the first prong arm pivot (24) and the second prong arm pivot (26), respectively. The pivots (20 and 22) are weight bearing, and because there are only two, the overall strength of the gambrel (10) is enhanced.

[15] At the distal end of the first prong arm (20) a first prong (28) is attached. At the distal end of the second prong arm (22) a second prong (30) is attached. The first prong (28) and the second prong (30) each have tapered ends (28a and 30a respectively) to allow for easier insertion and withdrawal of the prongs (28 and 30) into the hanging points, such as the hind legs, of the animal to be dressed. The angle of the first prong (28) relative to the first prong arm (20) and of the second prong (30) relative to the second prong arm (22) is set such that a carcass (not shown) may be easily mounted and easily dismounted yet remains securely attached while being dressed.

The angle of the first prong (28) and the second prong (30) relative to the horizontal may vary from about 20 degrees to about 85 degrees.

[16] Distal from the support hook (12) and connected to the central bar (14) at its second end (no reference number) is the lower cross member (32). The lower cross member has a first end (32a) and a second end (32b). Attached to the first end (32a) is the first lower cross member collar (34). The first lower cross member collar (34) has an aperture (not shown) through which the first prong arm (20) is slidably connected. The first lower cross member collar (34) may have a first notch (38) in the end opposite of the first end of the lower cross member (32a). Attached to the second end (32b) is the second lower cross member collar (36). The second

lower cross member collar (36) has an aperture (not shown) through which the second prong arm (22) is slidably connected. The second lower cross member collar (36) may have a second notch (40) in the end opposite of the second end of the lower cross member (32b).

[17] **Figure 2** illustrates the gambrel (10) in a second, fully extended position to support the
5 largest and heaviest animals.

[18] When the gambrel (10) is in use, the upper cross member (16) slides down the central bar (14). Because the lower cross member collars (34 and 36) are attached at a distance from the central bar (14) and the prong arms (20 and 22) are slidably connected to the lower cross member collars (34 and 36) respectively, as the upper cross member (16) slides down the central
10 bar (14) the prong arms (20 and 22) slide through the lower cross member collars (34 and 36) and rotate outwardly from the prong arm pivots (22 and 24). The apertures in the lower cross member collars (34 and 36) are sized to allow this downward and outward movement.

[19] The lower cross member (32) operates as a stopping mechanism for the upper cross member cylinder (18). In this second position, the first prong (28) and the second prong (30) are in nearly vertical position to provide the greatest support for the animal to be dressed. This view further illustrates the upper cross member (16), first prong arm pivot (24), second prong arm pivot (26), first lower cross member collar (34) and second lower cross member collar (36), operating in conjunction to spread the prong arms (20, 22) of the gambrel (10).

[20] If a smaller animal is being dressed, the gambrel (10) will move to a third, intermediate
20 extended position. The weight of the animal on the first prong (28) and the second prong (30) causes the first prong arm (20) and second prong arm (22) to be drawn through the first lower cross member collar (34) and second lower cross member collar (36), respectively. In conjunction with the first prong arm pivot (24) and second prong arm pivot (26), this drawing

action causes the prongs to automatically spread to the proper distance depending upon the weight and size of the carcass (not shown). The upper cross member cylinder (18) slidably operates to permit the upper cross member (16) and lower cross member (32) to be brought together.

[21] **Figure 3** is an partial, side perspective view of the present invention showing the second lower cross member collar (36). In this view, the second prong arm (22) is shown extending through the second lower cross member collar (36). At the end of the collar (36) is a second notch (40). The second notch (40) permits the second prong arm (22) to spread to its widest position and also operates as a stopping mechanism to prevent the gambrel (10) from spreading too much. The first lower cross member collar (34) and first notch (38) act in the same manner.

[22] **Figure 4** illustrates the first plate (16a) and second plate (16b) of the upper cross member (16) of the gambrel (10). The first and second upper cross member plates (16a and 16b) are remotely attached opposite each other. The first prong arm pivot (24) and the second prong arm pivot (26) are attached to the first and second upper cross member plates (16a and 16b) generally near the opposite ends of the first and second upper cross member plates (16a and 16b). The pivots (24 and 26) hold the upper cross member plates (16a and 16b) at a fixed distance sized to allow the first prong arm (22) and the second prong arm (22), which are pivotally attached to the first prong arm pivot (24) and the second prong arm pivot (26) respectively, to move between the first and second upper cross member plates (16a and 16b).

[23] Also shown is the upper cross member cylinder (18), which is attached to the first and second upper cross member plates (16a and 16b) generally near the center of the first and second upper cross member plates (16a and 16b). The upper cross member cylinder (18) is generally tubular in shape, and its inner diameter is sized to slidably receive the central bar (14) of the

gambrel (10). The central bar (14) is slidably inserted through the upper cross member cylinder (18).

[24] Figures 1 and 2 together illustrate the range of the angle of the first prong (28) and the second prong (30) relative to the horizontal. In the gambrel's (10) fully retracted state (Figure 5 1), the angle of the first prong (28) and the second prong (30) relative to the horizontal is about 20 degrees. In the gambrel's (10) full expanded state (Figure 2), the angle of the first prong (28) and the second prong (30) relative to the horizontal is about 85 degrees. The angle of the prongs relative to the horizontal will generally range between 20 degrees and 85 degrees depending upon the size and weight of the carcass (not shown).

[25] Although the invention has been described with reference to specific embodiments, this description is not meant to be construed in a limited sense. Various modifications of the disclosed embodiments, as well as alternative embodiments of the inventions will become apparent to persons skilled in the art upon the reference to the description of the invention. It is, therefore, contemplated that the appended claims will cover such modifications that fall within 10 15 the scope of the invention.